## MVX Matrix Switcher Part Numbers

These items are included in each order for a MVX A matrix switcher:

| Matrix switcher part numbers | Replacement part number |
|---|---|
| MVX 128 VGA A | 60-799-01 |
| MVX 1212 VGA A | 60-858-01 |
| MVX 168 VGA A | 60-838-01 |
| MVX 1616 VGA A | 60-839-01 |


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# Extron® Electronics

INTERFACING, SWITCHING AND CONTROL

# Setup Guide

**IMPORTANT:**
**Refer to www.extron.com for the complete user manual and installation instructions before connecting the product to the power source.**

# *MVX VGA A*

## Computer Video (VGA) and Audio Matrix Switchers


68-521-54 **Rev. A**
11 09

# Precautions

## Safety Instructions • English

**This symbol is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.**

**This symbol is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.**

### Caution

**Read Instructions** • Read and understand all safety and operating instructions before using the equipment.

**Retain Instructions** • The safety instructions should be kept for future reference.

**Follow Warnings** • Follow all warnings and instructions marked on the equipment or in the user information.

**Avoid Attachments** • Do not use tools or attachments that are not recommended by the equipment manufacturer because they may be hazardous.

## Consignes de Sécurité • Français

**Ce symbole sert à avertir l'utilisateur que la documentation fournie avec le matériel contient des instructions importantes concernant l'exploitation et la maintenance (réparation).**

**Ce symbole sert à avertir l'utilisateur de la présence dans le boîtier de l'appareil de tensions dangereuses non isolées posant des risques d'électrocution.**

### Attention

**Lire les instructions**• Prendre connaissance de toutes les consignes de sécurité et d'exploitation avant d'utiliser le matériel.

**Conserver les instructions**• Ranger les consignes de sécurité afin de pouvoir les consulter à l'avenir.

**Respecter les avertissements** • Observer tous les avertissements et consignes marqués sur le matériel ou présentés dans la documentation utilisateur.

**Eviter les pièces de fixation** • Ne pas utiliser de pièces de fixation ni d'outils non recommandés par le fabricant du matériel car cela risquerait de poser certains dangers.

## Sicherheitsanleitungen • Deutsch

**Dieses Symbol soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.**

**Dieses Symbol soll den Benutzer darauf aufmerksam machen, daß im Inneren des Gehäuses dieses Produktes gefährliche Spannungen, die nicht isoliert sind und die einen elektrischen Schock verursachen können, herrschen.**

### Achtung

**Lesen der Anleitungen** • Bevor Sie das Gerät zum ersten Mal verwenden, sollten Sie alle Sicherheits-und Bedienungsanleitungen genau durchlesen und verstehen.

**Aufbewahren der Anleitungen** • Die Hinweise zur elektrischen Sicherheit des Produktes sollten Sie aufbewahren, damit Sie im Bedarfsfall darauf zurückgreifen können.

**Befolgen der Warnhinweise** • Befolgen Sie alle Warnhinweise und Anleitungen auf dem Gerät oder in der Benutzerdokumentation.

**Keine Zusatzgeräte** • Verwenden Sie keine Werkzeuge oder Zusatzgeräte, die nicht ausdrücklich vom Hersteller empfohlen wurden, da diese eine Gefahrenquelle darstellen können.

## Instrucciones de seguridad • Español

**Este símbolo se utiliza para advertir al usuario sobre instrucciones importantes de operación y mantenimiento (o cambio de partes) que se desean destacar en el contenido de la documentación suministrada con los equipos.**

**Este símbolo se utiliza para advertir al usuario sobre la presencia de elementos con voltaje peligroso sin protección aislante, que puedan encontrarse dentro de la caja o alojamiento del producto, y que puedan representar riesgo de electrocución.**

### Precaucion

**Leer las instrucciones** • Leer y analizar todas las instrucciones de operación y seguridad, antes de usar el equipo.

**Conservar las instrucciones** • Conservar las instrucciones de seguridad para futura consulta.

**Obedecer las advertencias** • Todas las advertencias e instrucciones marcadas en el equipo o en la documentación del usuario, deben ser obedecidas.

**Evitar el uso de accesorios** • No usar herramientas o accesorios que no sean especificamente recomendados por el fabricante, ya que podrian implicar riesgos.

### Warning

**Power sources** • This equipment should be operated only from the power source indicated on the product. This equipment is intended to be used with a main power system with a grounded (neutral) conductor. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it.

**Power disconnection** • To remove power from the equipment safely, remove all power cords from the rear of the equipment, or the desktop power module (if detachable), or from the power source receptacle (wall plug).

**Power cord protection** • Power cords should be routed so that they are not likely to be stepped on or pinched by items placed upon or against them.

**Servicing** • Refer all servicing to qualified service personnel. There are no user-serviceable parts inside. To prevent the risk of shock, do not attempt to service this equipment yourself because opening or removing covers may expose you to dangerous voltage or other hazards.

**Slots and openings** • If the equipment has slots or holes in the enclosure, these are provided to prevent overheating of sensitive components inside. These openings must never be blocked by other objects.

**Lithium battery** • There is a danger of explosion if battery is incorrectly replaced. Replace it only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

### Avertissement

**Alimentations**• Ne faire fonctionner ce matériel qu'avec la source d'alimentation indiquée sur l'appareil. Ce matériel doit être utilisé avec une alimentation principale comportant un fil de terre (neutre). Le troisième contact (de mise à la terre) constitue un dispositif de sécurité : n'essayez pas de la contourner ni de la désactiver.

**Déconnexion de l'alimentation**• Pour mettre le matériel hors tension sans danger, déconnectez tous les cordons d'alimentation de l'arrière de l'appareil ou du module d'alimentation de bureau (s'il est amovible) ou encore de la prise secteur.

**Protection du cordon d'alimentation** • Acheminer les cordons d'alimentation de manière à ce que personne ne risque de marcher dessus et à ce qu'ils ne soient pas écrasés ou pincés par des objets.

**Réparation-maintenance** • Faire exécuter toutes les interventions de réparation-maintenance par un technicien qualifié. Aucun des éléments internes ne peut être réparé par l'utilisateur. Afin d'éviter tout danger d'électrocution, l'utilisateur ne doit pas essayer de procéder lui-même à ces opérations car l'ouverture ou le retrait des couvercles risquent de l'exposer à de hautes tensions et autres dangers.

**Fentes et orifices** • Si le boîtier de l'appareil comporte des fentes ou des orifices, ceux-ci servent à empêcher les composants internes sensibles de surchauffer. Ces ouvertures ne doivent jamais être bloquées par des objets.

**Lithium Batterie** • Il a danger d'explosion s'll y a remplacment incorrect de la batterie. Remplacer uniquement avec une batterie du meme type ou d'un ype equivalent recommande par le constructeur. Mettre au reut les batteries usagees conformement aux instructions du fabricant.

### Vorsicht

**Stromquellen** • Dieses Gerät sollte nur über die auf dem Produkt angegebene Stromquelle betrieben werden. Dieses Gerät wurde für eine Verwendung mit einer Hauptstromleitung mit einem geerdeten (neutralen) Leiter konzipiert. Der dritte Kontakt ist für einen Erdanschluß, und stellt eine Sicherheitsfunktion dar. Diese sollte nicht umgangen oder außer Betrieb gesetzt werden.

**Stromunterbrechung** • Um das Gerät auf sichere Weise vom Netz zu trennen, sollten Sie alle Netzkabel aus der Rückseite des Gerätes, aus der externen Stomversorgung (falls dies möglich ist) oder aus der Wandsteckdose ziehen.

**Schutz des Netzkabels** • Netzkabel sollten stets so verlegt werden, daß sie nicht im Weg liegen und niemand darauf treten kann oder Objekte darauf- oder unmittelbar dagegengestellt werden können.

**Wartung** • Alle Wartungsmaßnahmen sollten nur von qualifiziertem Servicepersonal durchgeführt werden. Die internen Komponenten des Gerätes sind wartungsfrei. Zur Vermeidung eines elektrischen Schocks versuchen Sie in keinem Fall, dieses Gerät selbst öffnen, da beim Entfernen der Abdeckungen die Gefahr eines elektrischen Schlags und/oder andere Gefahren bestehen.

**Schlitze und Öffnungen** • Wenn das Gerät Schlitze oder Löcher im Gehäuse aufweist, dienen diese zur Vermeidung einer Überhitzung der empfindlichen Teile im Inneren. Diese Öffnungen dürfen niemals von anderen Objekten blockiert werden.

**Litium-Batterie** • Explosionsgefahr, falls die Batterie nicht richtig ersetzt wird. Ersetzen Sie verbrauchte Batterien nur durch den gleichen oder einen vergleichbaren Batterietyp, der auch vom Hersteller empfohlen wird. Entsorgen Sie verbrauchte Batterien bitte gemäß den Herstelleranweisungen.

### Advertencia

**Alimentación eléctrica** • Este equipo debe conectarse únicamente a la fuente/tipo de alimentación eléctrica indicada en el mismo. La alimentación eléctrica de este equipo debe provenir de un sistema de distribución general con conductor neutro a tierra. La tercera pata (puesta a tierra) es una medida de seguridad, no puentearia ni eliminaria.

**Desconexión de alimentación eléctrica** • Para desconectar con seguridad la acometida de alimentación eléctrica al equipo, desenchufar todos los cables de alimentación en el panel trasero del equipo, o desenchufar el módulo de alimentación (si fuera independiente), o desenchufar el cable del receptáculo de la pared.

**Protección del cables de alimentación** • Los cables de alimentación eléctrica se deben instalar en lugares donde no sean pisados ni apretados por objetos que se puedan apoyar sobre ellos.

**Reparaciones/mantenimiento** • Solicitar siempre los servicios técnicos de personal calificado. En el interior no hay partes a las que el usuario deba acceder. Para evitar riesgo de electrocución, no intentar personalmente la reparación/mantenimiento de este equipo, ya que al abrir o extraer las tapas puede quedar expuesto a voltajes peligrosos u otros riesgos.

**Ranuras y aberturas** • Si el equipo posee ranuras o orificios en su caja/alojamiento, es para evitar el sobrecalientamiento de componentes internos sensibles. Estas aberturas nunca se deben obstruir con otros objetos.

**Batería de litio** • Existe riesgo de explosión si esta batería se coloca en la posición incorrecta. Cambiar esta batería únicamente con el mismo tipo (o su equivalente) recomendado por el fabricante. Desachar las baterías usadas siguiendo las instrucciones del fabricante.

# Extron Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

**USA, Canada, South America, and Central America:**
Extron USA
1001 East Ball Road
Anaheim, CA 92805
U.S.A.

**Europe, Africa, and the Middle East:**
Extron Europe
Hanzeboulevard 10
3825 PH Amersfoort
The Netherlands

**Asia:**
Extron Asia
135 Joo Seng Road #04-01
PM Industrial Bldg.
Singapore 368363
Singapore

**Japan:**
Extron Japan
Kyodo Building, 16 Ichibancho
Chiyoda-ku, Tokyo 102-0082
Japan

**China:**
Extron China
686 Ronghua Road, Songjiang District
Shanghai 201611
China

**Middle East:**
Extron Middle East
Dubai Airport Free Zone
F12, PO Box 293666
United Arab Emirates, Dubai

This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions or non-Extron authorized modification to the product.

***If it has been determined that the product is defective, please call Extron and ask for an Applications Engineer at (714) 491-1500 (USA), 31.33.453.4040 (Europe), 65.6383.4400 (Asia), or 81.3.3511.7655 (Japan) to receive an RA# (Return Authorization number). This will begin the repair process as quickly as possible.***

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state and country to country, and that some provisions of this warranty may not apply to you.

## 安全须知 • 中文

这个符号提示用户该设备用户手册中有重要的操作和维护说明。

这个符号警告用户该设备机壳内有暴露的危险电压，有触电危险。

### 注意

**阅读说明书** • 用户使用该设备前必须阅读并理解所有安全和使用说明。

**保存说明书** • 用户应保存安全说明书以备将来使用。

**遵守警告** • 用户应遵守产品和用户指南上的所有安全和操作说明。

**避免追加** • 不要使用该产品厂商没有推荐的工具或追加设备，以避免危险。

### 警告

**电源** • 该设备只能使用产品上标明的电源。 设备必须使用有地线的供电系统供电。 第三条线（地线）是安全设施，不能不用或跳过。

**拔掉电源** • 为安全地从设备拔掉电源，请拔掉所有设备后或桌面电源的电源线，或任何接到市电系统的电源线。

**电源线保护** • 妥善布线， 避免被踩踏，或重物挤压。

**维护** • 所有维修必须由认证的维修人员进行。 设备内部没有用户可以更换的零件。为避免出现触电危险不要自己试图打开设备盖子维修该设备。

**通风孔** • 有些设备机壳上有通风槽或孔，它们是用来防止机内敏感元件过热。 不要用任何东西挡住通风孔。

**锂电池** • 不正确的更换电池会有爆炸的危险。 必须使用与厂家推荐的相同或相近型号的电池。 按照生产厂的建议处理废弃电池。

## FCC Class A Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. The Class A limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

**NOTE** *This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to ensure compliance with FCC emissions limits.*

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# Chapter One

## Introduction

About this Manual

About the Matrix Switchers

**NOTE** *For more information on any subject in this guide, refer to the* MVX VGA A User's Manual, *available on the Extron DVD or at* ***www.extron.com****.*

## About this Manual

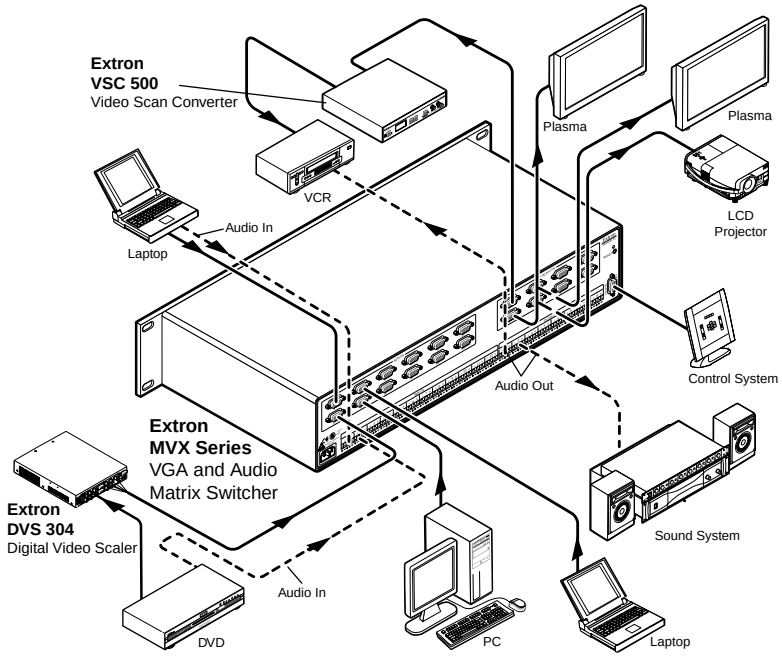
This setup guide allows you to easily and quickly set up and configure your matrix switcher. This guide also shows you how to:

- Perform basic operations using the front panel controls
- Perform basic operations using selected Simple Instruction Set (SIS™) commands
- Load and start up the Windows®-based Matrix Switchers Control Program

## About the Matrix Switchers

The Extron VGA matrix switchers covered in this manual distribute any input to any combination of outputs. The switchers can route multiple input/output combinations simultaneously. The switchers are available in four matrix sizes (the number of inputs and outputs):

- MVX 128 VGA A (12 inputs by 8 outputs)
- MVX 168 VGA A (16 inputs by 8 outputs)
- MVX 1212 VGA A (12 inputs by 12 outputs)
- MVX 1616 VGA A (16 inputs by 16 outputs)







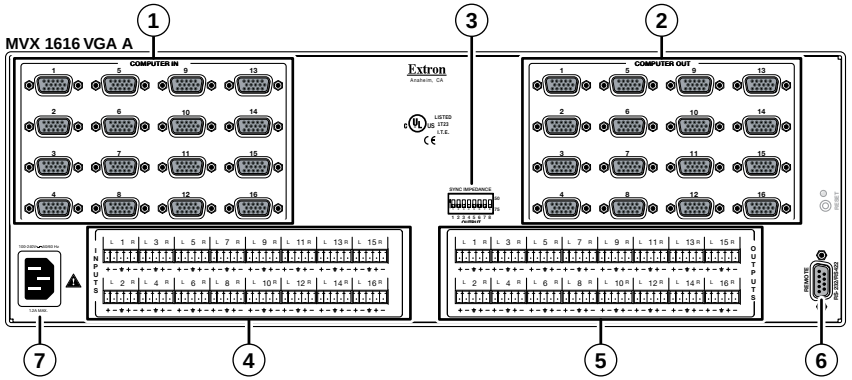

# Chapter Two

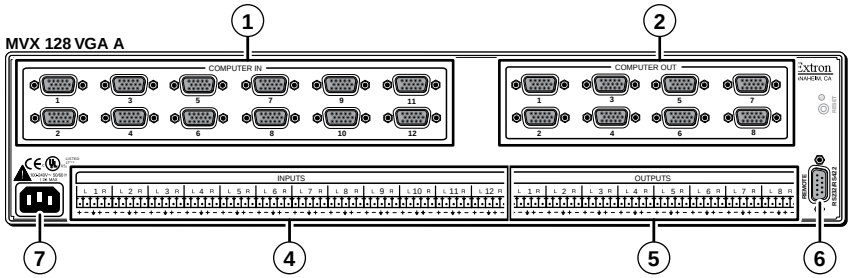
# Installation

Rear Panel Installation Features

Front Panel Configuration Port

## Rear Panel Installation Features




**CAUTION** *Turn off power to the input and output devices, and disconnect their power cords.*

**NOTE** *The MVX matrix switchers can also switch component video, S-video, or composite video with the appropriate adapters.*

① **Video inputs —** Connect RGB video sources, as appropriate to your switcher's video format and matrix size.

② **Video outputs —** Connect RGB video displays, as appropriate to your switcher's video format and matrix size.

**NOTE** *Most laptop or notebook computers have an external video port that may require special commands to output the video to that connector. Also, a laptop's screen shuts off once the external video port is activated. See the computer's user's guide for details, or contact Extron for a list of common laptop keyboard commands.*

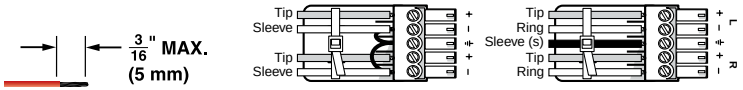


**NOTE** *The MVX VGA 128 A does not have the Sync Impedance switches described below.*

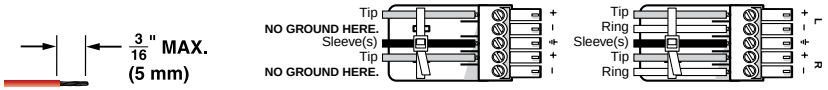
③ **Sync Impedence switches (168, 1212, and 1616 matrix sizes) —** The Sync Impedance switches compensate the output 1 through 8 impendance for different cable types and lengths. Each switch provides the option of selecting either 50 ohms or 75 ohms. The 50 ohms position is required only when a sync problem is encountered. The normal position is 75 ohms.

**NOTE** *An input producing an out-of-sync display — a display that is rolling vertically and/or tearing horizontally — could indicate an impedance problem.*

④ **Audio inputs —** Connect audio sources to the 5-pole captive screw connectors.



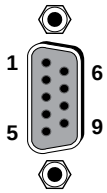

⑤ **Audio outputs —** Connect audio devices to the 5-pole captive screw connectors.




**CAUTION** *For unbalanced stereo audio, connect the sleeve(s) to the ground contact. DO NOT connect the sleeve(s) to the negative (-) contacts.*

⑥ **Remote port —** If desired, connect a control or computer to the rear panel Remote RS-232/RS-422 port.

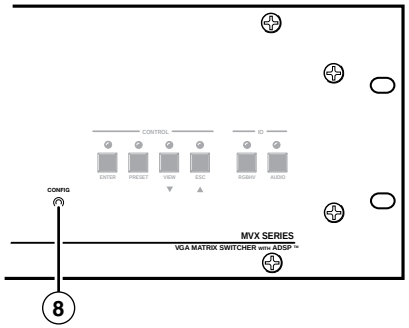
**NOTE** *Remote port defaults: RS-232, 9600 baud, no parity, 8-bit, 1 stop bit, no flow control.*




| Pin | RS-232 | Function | RS-422 | Function |
|---|---|---|---|---|
| 1 | — | Not used | — | Not used |
| 2 | TX | Transmit | TX– | Transmit (–) |
| 3 | RX | Receive | RX– | Receive (–) |
| 4 | — | Not used | — | Not used |
| 5 | Gnd | Ground | Gnd | Ground |
| 6 | — | Not used | — | Not used |
| 7 | — | Not used | RX+ | Receive (+) |
| 8 | — | Not used | TX+ | Transmit (+) |
| 9 | — | Not used | — | Not used |

⑦ **Power —** Plug the switcher into a grounded AC source.

## Front Panel Configuration Port




⑧ **Configuration port —** If desired, connect a control or computer to the front panel Configuration (RS-232) port. Use an optional 9-pin D to 2.5 mm mini jack TRS RS-232 cable, part #**70-335-01**.





# Chapter Three

# Front Panel Operation

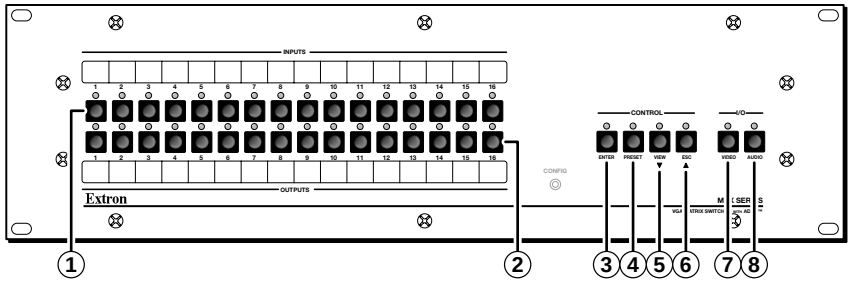
Creating a Tie

Saving or Recalling a Preset

Setting the Front Panel Locks (Executive Modes)

Viewing and Adjusting the Input Audio Level and Output Volume

Viewing Ties (and Muting Outputs)




**NOTE** *On some MVX switchers, the video selection button is labeled "RGBHV" rather than "Video".*

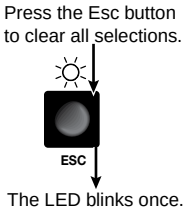
**NOTE** *The front panel controls and indicators have numerous functions that are beyond the scope of this setup guide. Refer to the* MVX VGA A Switcher User's Manual, *chapter 3, "Operation" for full details.*

1. **Input buttons and LEDs —** Buttons select inputs for front panel operations. LEDs identify selected inputs and indicate other miscellaneous displays.
2. **Output buttons and LEDs —** Buttons select outputs for front panel operations. LEDs identify selected outputs and indicate other miscellaneous displays.
3. **Enter button and LED —** Button saves changes that you make on the front panel. LED indicates that a pending change needs to be saved.
4. **Preset button and LED —** Button selects modes in which you can save and recall presets. LED indicates the preset mode.
5. **View (▼) button and LED —** Button selects a View mode, in which you can view the current configuration without making inadvertent changes and also mute and unmute outputs. Button also can be used to decrease audio levels. LED identifies view mode.
6. **Esc (▲) button and LED —** Button cancels operations or selections in progress and resets the front panel button indicators. Button also can be used to increase audio level. LED flashes once to indicate that the escape function has been activated.
7. **Video button and LED —** Button selects video for creation of ties. LED indicates that video is selected for tie creation.
8. **Audio button and LED —** Button selects audio for creation of ties. Button also selects Audio mode, in which you can adjust audio levels. LED indicates that audio is selected for tie creation. LED also indicates Audio mode is selected.



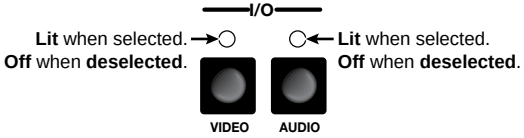
## Creating a Tie

1. Press and release the Esc button to clear any button indicators that may be lit.

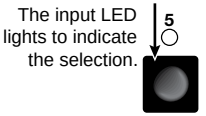



2. Press and release the Video and/or Audio I/O button(s) to select or deselect video and/or audio as desired.

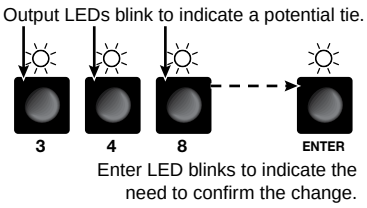
**NOTE** *Audio or video can be broken away (tied by itself) by selecting* ***only*** *the Video button or* ***only*** *the Audio button.*




3. Press and release the desired input button.




4. Press and release the desired output button(s).

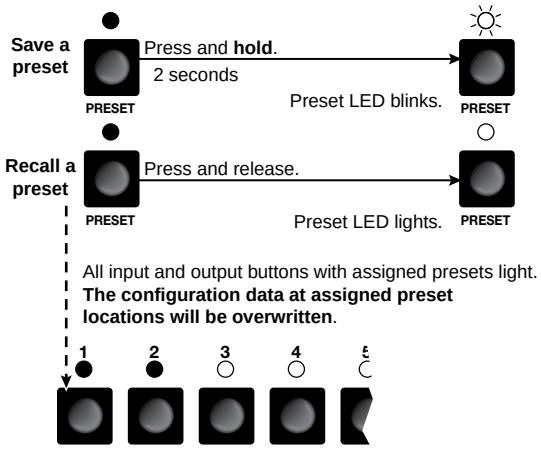



5. Press and release the Enter button. All button indicators turn off.

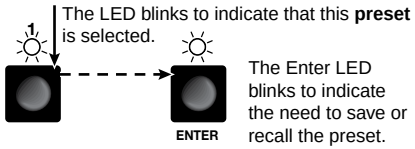
## Saving or Recalling a Preset

1. **Save** a preset — Press and **hold** the Preset button until it flashes.

   **Recall** a preset — Press and release the Preset button.




2. Press and release the desired input button.


The LED blinks to indicate that this preset is selected.
1
ENTER
The Enter LED blinks to indicate the need to save or recall the preset.

3. Press and release the Enter button.



## Setting the Front Panel Locks (Executive Modes)

The matrix switcher has three levels of front panel security lock that limit the operation of the switcher from the front panel. The three levels are:

- **Lock mode 0 —** The front panel is completely unlocked.
- **Lock mode 1 —** All changes are locked from the front panel (except for setting Lock mode 2). Some functions can be viewed.
- **Lock mode 2 —** Basic functions are unlocked. Advanced features are locked and can be viewed only.

  Basic features consist of:

  - Making ties
  - Saving and recalling presets
  - Setting input audio gain and attenuation
  - Changing Lock modes

  Advanced features consist of:

  - Setting video and audio output mutes
  - Setting audio output volume

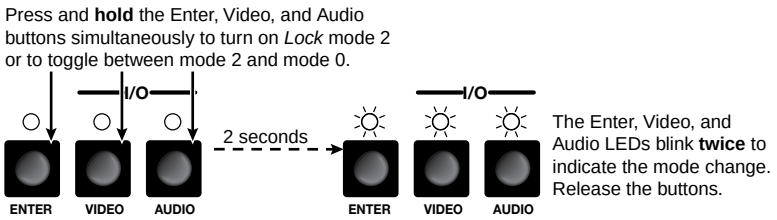
**NOTE** *The switcher is shipped from the factory in Lock mode 2.*

**NOTE** *For a complete list of advanced features, refer to the* MVX VGA A User's Manual*, available on the Extron DVD or at* ***www.extron.com****.*

### Selecting Lock mode 2 or toggling between mode 2 and mode 0

**NOTE** *If the switcher is in Lock mode 0 or mode 1, this procedure selects mode 2.*
*If the switcher is in Lock mode 2, this action selects mode 0 (unlocks the switcher).*

Toggle the lock on and off by pressing and holding the Enter button, the Video button, and the Audio button for approximately 2 seconds.

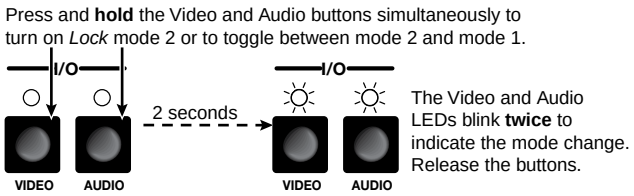

Press and hold the Enter, Video, and Audio buttons simultaneously to turn on Lock mode 2 or to toggle between mode 2 and mode 0.
I/O
I/O
2 seconds
ENTER
VIDEO
AUDIO
ENTER
VIDEO
AUDIO
The Enter, Video, and Audio LEDs blink twice to indicate the mode change. Release the buttons.

### Selecting Lock mode 2 or toggling between mode 2 and mode 1

**NOTE** *If the switcher is in Lock mode 0 or mode 1, this procedure selects mode 2.*

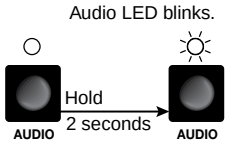
*If the switcher is in Lock mode 2, this action selects mode 1.*

Toggle the lock on and off by pressing and holding the Video button and the Audio button for approximately 2 seconds.

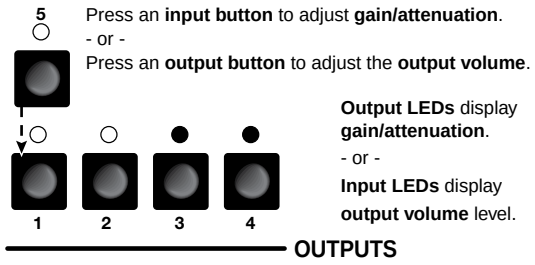

Press and **hold** the Video and Audio buttons simultaneously to turn on *Lock* mode 2 or to toggle between mode 2 and mode 1.
I/O
I/O
2 seconds
VIDEO
AUDIO
VIDEO
AUDIO
The Video and Audio LEDs blink **twice** to indicate the mode change. Release the buttons.

## Viewing and Adjusting the Input Audio Level and Output Volume

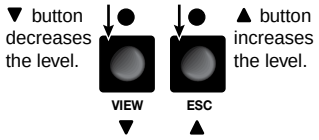
1. Press and **hold** the Audio button until it flashes.




2. Press an input button (for input level) or output button (for volume). Refer to the *MVX VGA A Switcher User's Manual*, chapter 3, "Operation", to read the displayed value.




3. Increase/decrease the level or volume by pressing the Esc (▲) and View (▼) buttons.




4. Press and release the Audio button to exit.

## Viewing Ties (and Muting Outputs)

1. Press the View button. Output LEDs light for outputs that have no ties established.

**NOTE** *If an output LED blinks, that output is muted.*

2. Press an input button. The LEDs for all tied outputs light.
3. Press an output button. The LEDs for the tied input and all tied outputs light.
4. **If you want to toggle a mute on and off**, press and hold the output button for 2 seconds.
5. Press the View button. All input and output LEDs return to an unlit state.

# Chapter Four

## Remote Control

Selected SIS Commands

Installing and Starting the Control Program

Button Label Generator Program

## Selected SIS Commands

The switchers have Simple Instruction Set (SIS™) commands that you can use for operation and configuration. You can run these commands from a PC connected to either of the switcher's serial ports. See ⑥ (page 2-3) and ⑧ (page 2-4), for connection information.

| Command | ASCII command (host to switcher) | Response (switcher to host) | Additional description |
|---|---|---|---|
| **Create ties** | | | |
| **NOTE** • *Commands can be entered back-to-back in a string, with no spaces. For example: 1*1!02*02&003*003%4*8$.* | | | |
| • *The matrix switchers support 1-, 2-, and 3-digit numeric entries (1*1!, 02*02&, or 003*003%).* | | | |
| **NOTE** *When you create a tie where X1 = 00, you tie **no** input to the specified output (X2) (untie X2).* | | | |
| **NOTE** *The & **tie** command for RGB and the % **tie** command for video can be used interchangeably.* | | | |
| **NOTE** *The & **read tie** command for RGB and the % **read tie** command for video can be used interchangeably.* | | | |
| Tie input X1 to output X2, video and audio | X1*X2! | OutX2•InX1•All↵ | Tie input X1's video and audio to output X2. |
| *Example:* | 1*3! | Out03•In01•All↵ | Tie input 1 video and audio to output 3. |
| Tie input X1 to output X2, RGBHV | X1*X2& | OutX2•InX1•RGB↵ | Tie RGB only (video breakaway). |
| *Example (see 3rd Note, above):* | 10*4& | Out04•In10•RGB↵ | Tie input 10 RGB to output 4. |
| Tie input X1 to output X2, video | X1*X2% | OutX2•InX1•Vid↵ | Tie video only (video breakaway). |
| *Example (see 3rd Note, above)* | 7*5% | Out05•In07•Vid↵ | Tie input 7 video to output 5. |
| Tie input X1 to output X2, audio | X1*X2$ | OutX2•InX1•Aud↵ | Tie audio only (audio breakaway). |
| *Example:* | 12*04$ | Out04•In12•Aud↵ | Tie input 12 audio to output 4. |
| Read RGB output tie | X2& | X1↵ | RGBHV input X1 is tied to output X2. |
| Read video output tie | X2% | X1↵ | Video input X1 is tied to output X2. |
| Read audio output tie | X2$ | X1↵ | Audio input X1 is tied to output X2. |

**NOTE** X1 = Input number — 00 – (maximum number of inputs for your model) (00 = untie)
X2 = Output number — 01 – (maximum number of outputs for your model)

| Command | ASCII command (host to switcher) | Response (switcher to host) | Additional description |
|---|---|---|---|
| **Video and audio mute commands** | | | |
| RGB/video mute | X2*1B | VmtX2*1↵ | Mute output X2 RGB (video off). |
| RGB/video unmute | X2*0B | VmtX2*0↵ | Unmute output X2 RGB (video on). |
| Read RGB/video mute | X2B | X3↵ | 1 = mute on, 0 = mute off. |
| Global RGB/video mute | 1*B | Vmt1↵ | Mute all RGB outputs. |
| Global RGB/video unmute | 0*B | Vmt0↵ | Unmute all RGB outputs. |
| Audio mute | X2*1Z | AmtX2*1↵ | Mute output X2 audio (audio off). |
| Audio unmute | X2*0Z | AmtX2*0↵ | Unmute output X2 audio (audio on). |
| Read audio mute | X2Z | X3↵ | 1 = mute on, 0 = mute off. |
| Global audio mute | 1*Z | Amt1↵ | Mute all audio outputs. |
| Global audio unmute | 0*Z | Amt0↵ | Unmute all audio outputs. |
| View output mutes | EscVM← | $X4^1$ $X4^2$ $X4^3$ ... $X4^n$↵ | Each X4 response is the mute status of an output, starting from output 1. *n* = the maximum number of outputs for this model. |
| *Example: **MVX 1616 VGA A*** | EscVM← | Mut0220200000000000↵ | Output 2, 3, and 5 audio is muted. All other outputs are unmuted. |

**NOTE** *The "Mut" portion of the response appears only when the switcher is in Verbose mode 3. See the Verbose mode command on page 4-6.*

**NOTE**
X2 = Output number — 01 – (maximum number of outputs for your model)
X3 = Mute — 0 = off (unmuted) 1 = on (muted)
X4 = Video/audio mute: — 0 = no mutes 2 = audio mute 1 = video mute 3 = video and audio mute



| Command | ASCII command (host to switcher) | Response (switcher to host) | Additional description |
|---|---|---|---|
| **Audio output volume** | | | |
| Set the audio volume to a specific value | X2*X5V | OutX2•VolX5↵ | |
| *Example:* | 1*50v | Out01•Vol50↵ | Set output 1 volume to an X5 value of 50, an attenuation of 14 dB (79% of total volume). |
| Increment volume | X2+V | OutX2•VolX5↵ | Increase volume by 1 step. |
| *Example:* | 1+V | Out01•Vol51↵ | |
| Decrement volume | X2-V | OutX2•VolX5↵ | Decrease volume by 1 step. |
| Read output volume | X2V | X5↵ | |
| **Save and recall presets** | | | |
| **NOTE** *If you try to recall a preset that is not saved, the matrix switcher responds with the error code* E11. | | | |
| Save current configuration as a global preset | X6, | SprX6↵ | Command character is a comma. |
| *Example:* | 9, | Spr09↵ | Save current ties as preset 9. |
| Recall a global preset | X6. | RprX6↵ | Command character is a period. |
| *Example:* | 5. | Rpr05↵ | Recall preset 5, which becomes the current configuration. |

**NOTE**
X2 = Output number — 01 – (maximum number of outputs for your model)
X5 = Volume — 0 – 64 (1 dB/step except for 0-to-1, which is 22 dB) (default = 64 [0 dB])
X6 = Preset number — 01 - 32

| Command | ASCII command (host to switcher) | Response (switcher to host) | Additional description |
|---|---|---|---|
| ***Lock* (executive) modes** | | | |
| **NOTE** *See "Setting the front panel locks (Executive modes)" on page 3-4 for more information on the* Lock *modes.* | | | |
| Lock all front panel functions | 1X | Exe1↵ | Enable *Lock* mode 1. |
| Lock advanced front panel functions | 2X | Exe2↵ | Enable *Lock* mode 2. |
| Unlock all front panel functions | 0X | Exe0↵ | Enable *Lock* mode 0. |
| View lock status | X | X7↵ | |
| **Information requests** | | | |
| Information request | I | VX8XX9•AX8XX9↵ | VX8XX9 = video size, AX8XX9 = audio size |
| Request part number | N | X10↵ | |
| Query controller firmware version | Q | X11↵ | |
| *Example:* | Q | 1.23↵ | The factory-installed controller firmware version is 1.23 (sample value only). |
| **Verbose mode** | | | |
| Set verbose mode | EscX12CV← | VrbX12↵ | |
| Read verbose mode | EscCV← | X12↵ | |

**NOTE**

| | | |
|---|---|---|
| X7 = Lock mode | 0, 1, or 2 | |
| X8 = Inputs | Total number of inputs for this switcher | |
| X9 = Outputs | Total number of outputs for this switcher | |
| X10 = Part number | See the *MVX VGA A User's Manual*, for a complete list of part numbers. | |
| X11 = Firmware version number to second decimal place (*x.xx*) | | |
| X12 = Verbose mode | 0 = clear/none (default for Telnet connection) | 2 = tagged responses for queries |
| | 1 = verbose mode (RS-232/RS-422 default) | 3 = verbose mode and tagged for queries |

# Installing and Starting the Control Program

Another way to operate the switcher is via the Windows®-based Matrix Switchers Control Program. This program is contained on the Extron Software Products DVD (included with the switcher). Run this program on a PC connected to either of the switcher's serial ports. See ⑥ (page 2-3) and ⑧ (page 2-4), for connection information.The program must be installed on a Windows-based computer and cannot be run from the DVD.

**NOTE** *For details on operating the program, refer to the* MVX VGA A Switcher User's Manual, *chapter 5, "Matrix Software".*

## Installing the program

1. Insert the disk into the drive. The Extron software DVD window should appear automatically.

**NOTE** *If the window does not self-start, run Launch.exe from the DVD.*

2. Click the **Software** tab.

3. Scroll to the Matrix Switchers program and click **Install**.

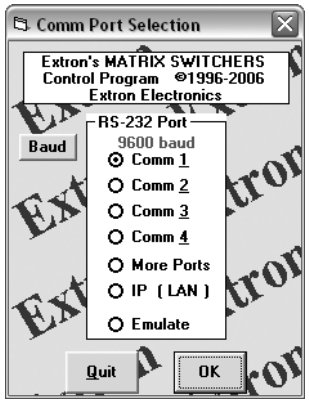
4. Follow the on-screen instructions. The installation program creates a C:\Program Files\Extron\Matrix_Switchers directory and an "Extron Electronics\Matrix Switchers" group folder. It installs the following four programs:

   - MATRIX Switcher+ Control Program
   - MATRIX Switcher+ Help
   - Uninstall MATRIX Switcher
   - Check for Matrix Updates

## Starting the program

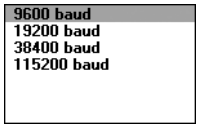
1. Click **Start** > **Programs** > **Extron Electronics** > **Matrix Switchers** > **MATRIX Switcher + Control Pgm**.

   The Comm Port Selection window appears.




2. Choose the comm (serial) port that is connected to the switcher.

**NOTE** *Check the baud rate displayed in the comm port selection window. If you need to change the baud rate, click the* **Baud** *button and double-click the desired baud rate.*




   Click **OK**.

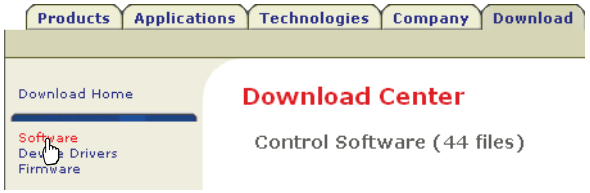
   The Matrix Switchers Control Program is ready for operation.



# Button-Label Generator Program

The Button Label Generator software creates labels that you can place in the translucent covers above and below the front panel input and output buttons. You can create labels with names, alphanumeric characters, or even color bitmaps for easy and intuitive input and output selection.

The Extron Button Label Generator is available on the Extron Web site, **www.extron.com**, under the Download Center tab and on the Extron Software Products DVD that accompanies the switcher.




Refer to the *MVX VGA A Switcher User's Manual*, chapter 5, "Matrix Software", for operating the Button Label Generator program and appendix A, "Specifications, Part Numbers, Accessories", for the procedure for removing and replacing the translucent covers.